**Plans Unveiled for New Haverhill Satellite Campus**

**Expanded Academic Programs and Business Incubator to Open This Fall**

Coming soon to downtown Haverhill: the permanent site of UMass Lowell’s satellite campus. Set to open for the fall 2017 semester in Harbor Place, the campus will include expanded academic programs and a new business incubator to serve the region.

The multitenant building is located in the heart of the city’s downtown, offering ease of access to local businesses, highways and the commuter rail. The university will occupy 22,000 square feet over two floors of the newly constructed facility.

Chancellor Jacquie Moloney and state Rep. Brian Dempsey ’99 of Haverhill made the announcement in December at an event at Harbor Place with Haverhill Mayor James Fiorentini and representatives of the building’s development team, state and local government, the Greater Haverhill Foundation and the university.

“UMass Lowell’s satellite campus at Harbor Place will allow the university to deliver its high-quality programs in a location that is even more convenient for those who live and work in the Greater Haverhill area,” said Moloney. “This new location will also help the university expand on the partnerships we have built in this community and forge new relationships that will enable us to be even more responsive to the needs of local employers and entrepreneurs.”

“By locating its satellite campus at Harbor Place, UMass Lowell will play a crucial role in the transformation of downtown Haverhill and to the overall economic health of the region,” said Dempsey.

While the downtown location has been under construction, the Haverhill satellite campus has been operating at Northern Essex Community College and offering undergraduate courses and degree programs in subjects including business, criminal justice and psychology.

With the move to Harbor Place, the university will continue to offer those programs with expanded options and academic services and will launch a new executive education program for midlevel and senior managers. All of the academic programs will be under the auspices of UMass Lowell’s award-winning Division of Online and Continuing Education.

UMass Lowell’s new business incubator at Harbor Place will be based on the model of the successful Innovation Hub that it operates in downtown Lowell. It will provide technology startups with a range of services including co-working and private office space and a prototype makerspace for research and development of new products, as well as access to the expertise of UMass Lowell faculty and state-of-the-art research facilities.

In conjunction with the incubator and its academic programs in Haverhill, the university will explore a special MBA option for Haverhill that would allow students to complete experiential education with Innovation Hub companies.
Research Aims to Reduce Toxics Used in Manufacturing

Faculty Members Partner with Massachusetts Companies to Find Safer Alternatives

In 2013, Massachusetts manufacturers used more than 57 million pounds of methanol, a toxic alcohol linked to reproduction and other health concerns that is found in products such as windshield washer fluid and industrial solvents. Many other products, ranging from disinfection solutions to laboratory testing devices, also contain or use toxic chemicals.

Researchers—aiming to reduce toxics use while keeping Massachusetts businesses competitive—are exploring safer alternatives, thanks to grants from the Toxics Use Reduction Institute at UMass Lowell. TURI recently awarded three research projects—two at UMass Lowell and one at UMass Amherst—approximately $20,000 each to look for safer substances.

Siemens Healthcare Diagnostics in Norwood asked TURI to help find alternatives to potentially hazardous surfactants used in laboratory testing. With TURI funding last year, Prof. Ram Nagarajan of plastics engineering discovered new surfactants derived from sugar or pectin that could be used in Siemens’ immunoassay lab products. Under this year’s grant, Assoc. Prof. Peter Gaines of biology will test whether the new compounds are toxic to cells.

Partnering with Michael Glass, president of cleaning supplies distributor M.D. Stetson in Randolph, UMass Lowell Assoc. Prof. Nancy Goodyear of biomedical and nutritional sciences will test the effectiveness of safer cleaning products and methods to disinfect non-critical areas such as floors.

Camco Manufacturing in Leominster is partnering with UMass Amherst researchers to conduct research on alternative materials methanol used in the windshield washing fluid that it manufactures.

Big Data, Artificial Intelligence Drive Innovations in Health Care

Panel Examines Opportunities in Digital Health Industry

Perhaps your health care record has moved from paper to electronic, or maybe you communicate with your doctor’s office via email or you wear a device that measures your activity level and reports it back to your doctor.

As the amount of health care-related data grows—the average person is likely to generate more than 1 million gigabytes of health-related data in a lifetime—the opportunities to develop new products and services that improve health care are exploding.

To examine health care industry trends and their potential impact, the university recently hosted the “Digital Healthcare Revolution” panel discussion together with the UMass Center for Digital Health, the Massachusetts Competitive Partnership and the Kennedy College of Sciences.

Panelists included Deborah DiSanzo, general manager of IBM Watson Health; Greg Erman, president and CEO of startup EmpiraMed; and Michael Wagner, president and CEO of Tufts Medical Center.

The audience of students, researchers, faculty and staff learned about challenges from the providers’ perspective, new market opportunities due to the explosive growth in big data and how new ideas for health care products or services are being brought to market.

Valkyrie Robot to Assist in Nuclear Facility Cleanup

Project Is Funded By $1.5 Million Grant from U.S. Department of Energy

Thanks to a three-year, $1.5 million grant from the U.S. Department of Energy, a team of robotics experts from UMass Lowell and Northeastern University is studying how a humanoid robot can help clean up traces of plutonium—a highly toxic and radioactive chemical element—from America’s deactivated and decommissioned nuclear production facilities.

NASA’s Valkyrie robot, currently residing at UMass Lowell’s New England Robotics Validation and Experimentation Center, will be used in the research. “We are going to use Valkyrie to investigate how we could replace a human working in a dangerous, high-radiation environment with a remotely operated humanoid robot, so the human will be kept out of harm’s way,” says computer science Prof. Holly Yanco.

The project will determine if Valkyrie can decontaminate and maintain the gloveboxes used in the Plutonium Fuel Form Facility at the Savannah River Site in South Carolina. A glovebox is an enclosure that enables people to safely handle and process hazardous materials through rubber gloves mounted on the box.

The DOE is interested in training Valkyrie to automate routine tasks like the day-to-day cleaning and maintenance of the facility’s gloveboxes.

“Valkyrie is a perfect candidate for the job, since it is shaped like a human and has the dexterity to operate tools and perform a wide variety of tasks,” explains Yanco.
Engineering Students Talk Science with Lowell Schoolchildren

Mechanical Engineering Majors Visit Middle Schools and After-school Programs

Fifteen curious fifth-graders gathered around mechanical engineering major Courtney Britko in the library of Sullivan Middle School in Lowell as she and two classmates talked about printed circuit boards and what it’s like to be an engineer.

When she asked, “Can you name something you use that has a circuit board in it?” a couple of hands went up. After the first couple of tentative responses—“my cell phone” and “the TV remote”—the answers came quick-fire.

After explaining the lifecycle of printed circuit boards, from choosing the materials through manufacture and disposal or recycling, to five different groups, Britko and her classmates were a bit breathless, but beaming.

The visit was part of a service-learning project involving 167 undergraduates in nine sections of Materials Science for Engineers. The students worked in teams to create posters about the lifecycle of materials used in everyday objects and then visited one of four Lowell middle schools, the after-school program at Girls Inc. or the Boys & Girls Club of Greater Lowell.

The learning goes both ways, says Assoc. Prof. Emmanuelle Reynaud, who taught the two Materials Science sections that visited Sullivan Middle School.

“One of the learning objectives for the class is for them to practice talking about technology with a non-technical audience,” she notes.

Winter Intersession Booked with Projects Big and Small

Pulichino Tong Business Center Nearing Completion

From final touches on the $47 million Pulichino Tong Business Center to touching up paint in classrooms, labs and lecture halls across campus, Facilities Management was busy with projects big and small during the winter intersession.

The most notable work was on North Campus, where construction on the Manning School of Business’ new 54,801-square-foot home is nearing completion. Plans call for moving faculty offices on the second, third and fourth floors. A state-of-the-art trading room will be featured prominently on the ground floor, as will a stock ticker suspended in the lobby’s atrium.

Elsewhere on campus, Facilities Management is working on the addition of two new elevators at Fox Hall, an $18 million project that will make life much more convenient for the 800 students living in the 18-story East Campus residence hall. The project, which will increase the number of elevators at Fox Hall from three to five, is on track to be completed by mid-August.

Also, the Aiken Fields complex on East Campus is being upgraded to provide students with two new turf playing fields for club and intramural sports and two tennis courts. The $6 million project is scheduled to be completed this summer.

Perry Hall to Undergo $50 Million Renovation

Private and Corporate Support Will Help Fully Modernize 65-year-old Engineering Building

This summer UMass Lowell will engineer the future, when it begins a $50 million renovation of its historic Engineering Building, now known as Perry Hall.

Built in 1952, Perry Hall has educated generations of successful engineers. While instruction has kept pace with a rapidly evolving field, the building itself has begun to lag behind, due to deferred maintenance and a 2012 fire that led to the closure of the entire fourth floor.

“The renovation will transform a worn instructional facility into a vibrant and diverse setting for academic research and teaching,” says Joseph Hartman, dean of the Francis College of Engineering.

The renovation will create flexible, medium-service labs in areas central to the Massachusetts economy, including biomedical, chemical and environmental engineering, as well as biomansufacturing and clean energy. Dedicated co-location spaces will enable the university to expand its industry partnerships.

While the state initially committed its support for the renovation, all higher ed projects are currently on hold until a new strategic master plan is completed. Given its urgency, UMass Lowell has decided to move forward with the renovation, with backing from private donors and corporate sponsors.

Campus improvements are a key component of Our Legacy, Our Place: The Campaign for UMass Lowell. For more information on the Perry Hall renovation, including sponsorship opportunities, contact the Office of University Advancement at 978-934-2223.

Renovation of Perry Hall will begin this summer, with completion set for fall 2018.
Music Researchers’ Playground Project Really Swings

EcoSonic Playground Teaches Children STEM Skills, Fosters Musical Creativity

Whether it’s a 3-year-old banging on pots and pans or a kindergartener making like Dizzy Gillespie with a cardboard paper towel tube, musical play is a natural part of childhood.

Asst. Prof. Elissa Johnson-Green of the Music Department researches musical play from a sociological perspective, looking at how people interact with music “as a basic function of humanity.”

Her latest research project, the EcoSonic Playground, seeks to encourage musical play for children in underserved communities by helping them create their own unique music-making structures, using mostly recycled materials. The initiative includes a curriculum component for elementary schools to teach students STEM skills through lessons in acoustics, physics, engineering and design as they work with educators to build the structures themselves.

“We know that when kids live in a stressful environment, it arrests their development. And we know that music accelerates the process of development. So the idea is to see how these children are developing once they have an opportunity to have musical play every day,” says Johnson-Green, who is collaborating on the project with visiting lecturer Christopher Lee and senior music education major Tyler McMillan, a member of the Emerging Scholars program.

The team is working with Lowell’s Lincoln Elementary School to develop an after-school pilot program for the project this spring. Once Lincoln’s structure is complete, the researchers hope to expand the project to other schools in the city and beyond.

“I think the most important aspect of this is to make these available to communities that might not otherwise have a lot of opportunity for music or play,” says Lee. “It touches on a lot of subjects, but the social justice and ecological sustainability aspects are very important to me.”

Johnson-Green’s team has built two prototype structures. One consists of three bicycle wheels, four Poland Spring water jugs and a gutter downspout, and the other is made up of 10 PVC pipes, two coffee cans and a pair of metal cooking pot lids. The curious-looking contraptions have been set up on the second floor of Durgin Hall, where the researchers are observing how UMass Lowell music students interact with them to inform future designs.

The team is seeking grant money for the next phase of the project: creating permanent versions of the portable structures designed by kids.

“They would be more like the structures you see on most playgrounds,” says Johnson-Green. “We would take those designs to an architect, go to the city planning office [and] do all the due diligence to get it built, but we wouldn’t ask for money from the school. That would defeat the purpose of this project.”

Visit the research team of, from left, senior Martha Robertson, Asst. Prof. Elissa Johnson-Green, senior Tyler McMillan and visiting lecturer Christopher Lee has set up two EcoSonic Playground prototypes at Durgin Hall.

Visiting lecturer Christopher Lee, left, and Asst. Prof. Elissa Johnson-Green plan to launch a pilot program of EcoSonic Playgrounds at Lowell’s Lincoln Elementary School this spring.